EXHIBIT E

IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF MASSACHUSETTS

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UNITED STATES OF AMERICA, et :
al, :
Plaintiffs, : Case No.
v. : 1:23-cv-10511-WGY
JETBLUE AIRWAYS CORPORATION :
AND SPIRIT AIRLINES, INC., X
Defendants.

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VIDEOTAPED DEPOSITION OF

GAUTAM GOWRISANKARAN

HIGHLY CONFIDENTIAL PURSUANT TO PROTECTIVE ORDER

Washington, D.C.

Friday, September 1, 2023

Q. Good morning, Doctor. How are you?

A. I'm fine, thank you.

Q. Good. The court reporter has premarked four exhibits that we might refer to frequently today. Exhibit 1 is your initial expert report, Exhibit 2 is Dr. Hill's report, and then Exhibit 3 is your reply report. And finally, Exhibit 4 are the 2010 horizontal merger guidelines. Do you see those in front of you?

A. Yes, I do.

Q. Great. You agree, Doctor, that a nationwide market for scheduled air passenger service would pass the hypothetical monopolist test, right?

A. Well, Mr. Culley, yes, the hypothetical monopolist test is meant to rule out markets that are too narrow. It's not meant to rule out markets that are too broad. And so I defined in my report a set of markets that's based on end point pairs, city end point pairs, so origin and destination pairs.

I also made the point in my initial report that broader markets would typically pass the hypothetical monopolist test if narrower markets did.

And so a geographic market, such as the United States as a whole, would pass the hypothetical monopolist test.

However, if we look at the merger guidelines, then a market definition analysis is supposed to exclude alternatives that are not relevant for the transaction at hand. And so if I wanted to, say, fly from here to New York, then a flight from, say, Spokane to Seattle isn't going to help me very much. And it's not really a relevant alternative.

MR. CULLEY: So move to strike anything after narrower markets did, as non-responsive.

BY MR. CULLEY:

Q. Doctor, we're going to be here a long time today, so I would just ask that if I ask you a question, you confine your answer to the question that I asked. So I want to try that again?

You do agree that a nationwide market for scheduled air passenger service would pass the hypothetical monopolist test, right?

A. Mr. Culley, as I said, a nationwide market

does, then it is technically possible to examine the merger's effects in that market, correct?

A. Well, what I said in the sentence before that is that the overarching principle under the merger guidelines for selecting among market definitions that satisfy the hypothetical monopolist test is to choose a market definition that illuminates the effects of the proposed merger on competition. And a national market here simply would not illuminate the effects of the proposed merger on competition. 4.

MR. CULLEY: Let me move to strike as nonresponsive.

BY MR. CULLEY:

Q. Doctor, that's not the question that I asked. The question that I asked was, given that a nationwide market for scheduled air passenger services passes the hypothetical monopolist test, you agree that it is technically possible to examine the merger's effects in that market, right?

A. It is technically possible to do so. But as I said later in the paragraph, selecting among

candidate markets is usually guided by making the market definition one that helps focus the exercise.

So if you tried to use a market that's simply inappropriate, as a national market would be, then you won't bring into focus what you're trying to consider in this merger, which is the competition between JetBlue and Spirit.

MR. CULLEY: Move to strike as nonresponsive everything after, it is technically possible to do so.

BY MR. CULLEY:

Q. Your next sentence here in the report says, "the criteria for choosing among such candidates is not critical." Do you see that?

A. Yes, I do.

Q. And when you say, among such candidates, you mean all the candidate markets that pass the hypothetical monopolist test; is that right?

A. Right. So what I mean by that sentence is that I think there's language in the merger guidelines that says choosing a potential market is not a matter of precise metes and bounds. So there

So overall, I think that it's more reasonable to have separate markets defined for when the origin or destination are each of those three separate airports. However, it doesn't really matter to my analysis whether one groups them as one market -- excuse me, groups those three cities -- those three airports together as one city that's part of multiple markets, or considers those three airports as three different cities, as the Department of Transportation does.

Q. You're not opining, are you, Doctor, that we must always choose the narrowest market that passes the hypothetical monopolist test as the relevant antitrust market, are you?

A. No, Mr. Culley, that would not be consistent with the principles in the horizontal merger guidelines. But the principles state not to pick the narrowest market, but to include relevant alternatives, and not include irrelevant alternatives, because they harm the focus of the investigation.

Q. And what makes an alternative irrelevant?

not a zero-one, like they coordinate all the time or they don't coordinate.

But what I'm opining on is that there are a number of ways in which the airlines, including JetBlue, engage in coordinated behavior. So for instance, they engage in cross-market initiatives and flashing. Those are two examples where they signal to their rivals their intent to raise prices and not compete in their rivals' hubs, for instance, with cross-market initiatives, or they signal their intent with flashing that -- of their intent to sort of soften competition for their rivals. Those are all examples of what, as economists, we think of as coordinated behavior.

And again, it's not a zero-one situation. But what we mean by coordinated behavior as an economist is some type of behavior, where it's not purely static price competition or Bertrand competition, as we call it as economists. But rather where companies understand that if they price higher than the static profit-maximizing price level, the Bertrand prices, that they will, in turn, see higher

account for entries; is that right? Let me be more specific.

Your concentration analysis does not account for entry in response to the merger; is that right.

A. So by concentration analysis, I don't know if you mean Exhibit 5 or another analysis. Because Exhibit 5 is about market shares, which relate to concentration, but they're not exactly concentration.

Q. Do you have a separate concentration analysis in your report, apart from Exhibit 5?

A. I do report Herfindahl Indices in a number of points in my reports. I can point you to some of them if you would like.

Q. None of them account for entry in response to the merger, correct?

A. Well, a concentration measure is, by its definition, a measure at a point in time. And what my concentration or Herfindahl measures that I use -- I do, is they are measuring the Herfindahl Index at the last four quarters before the merger was announced. And they are measuring how concentrated

the market is at that point.
Q. And therefore, they don't incorporate entry that may occur in response to the merger, correct?
A. They do not account for entry that would -- may occur in response to the merger. But of course, my net harm model does allow for other firms to reposition in response to the merger.
Q. And when you say that your net harm model allows other firms to revisit it in response to the merger, that is because it does not control for the identity of carriers before and after the entry event?
A. So broadly speaking, yes, that it's not appropriate, and not best practices, if you're looking at an entry event as exogenous, to control for the other firms that are there in the market, because those other firms may evolve endogenously or may change in response to an entry.
And so what I did in my initial analysis was to allow other firms to reposition in response to entry or to exit, and to calculate what the impact of

Q. Are you aware that in 18 of the -- sorry, scratch that.

Are you aware that in 16 of the 18 JetBlue entry events that you use, another carrier exited after JetBlue's entry.

A. I don't know if I remember that statistic or not, but it wouldn't surprise me.

Q. You have no reason to believe that's incorrect?

A. I have no reason to -- either way, to have a belief about that.

Q. And are you aware that in 52 of the 62 Spirit entry events that you study, a carrier exited after Spirit entered?

A. Again, it's not something I studied. But what -- the number of exiters. But what I absolutely did study is to understand what the effect on market prices are. And I know that repositioning occurs. And that wouldn't surprise me either way, if it was 52 markets, or if it was 22. They're both plausible.

Q. And do you view -- scratch that.

MR. CULLEY: Why don't we take a break

But for the benefit of the record, I want to clarify, it's about a 9 percent price decrease?
A. Yeah, so there's a close relationship between the coefficient of a log and the actual price decrease. It's almost equal, but it's not quite equal. And so the coefficient there in the unweighted specification is .0979, which is closer to 10 percent than 9. And I think, if I got this right, that when you convert from logs to percents, you increase it slightly. And so I think it's really a 10 percent price decrease.
Q. And similarly, what you calculate for JetBlue, it's just a little over 1 percent?
A. It's like one-and-a-half percent, yeah.
Q. And if I'm interpreting that correctly, what you're saying is, separate and apart from however much capacity Spirit puts in a route, you'd expect the mere presence of Spirit to decrease market-wide prices by 9 percent -- or 10 percent, excuse me.
A. So that's not really how we should think about regression coefficients. And there's really

two things about what you said that if, for instance, if you were an undergraduate student in my advanced undergraduate industrial organization class, I would want to correct you on.

And the two points about that are that, first of all, it's not separately from other capacity, because it's 1 point. But the more fundamental point here, and this is something I brought up in my reply report, is that modern econometrics, really one of the -- one of the ideas of modern econometrics is that we should be looking at the effects only where we have data. And we don't want to look for effects outside of a range where we have data, because the effects are not that interpretable.

And what I cited in my reply report is the Nobel Prize -- like, the description they gave in the Nobel Prize. And this is the year that Josh Angrist from MIT, and David Card from Berkeley, and Guido Imbens from Stanford won it. And they won it for basically all of these points for how to deal with data and how to deal with what's called treatment

effects. And this is really a treatment effect here.

And the Nobel Committee specifically said that one of the innovations of this was how to think about looking at regressions. And one of the insights, if the look at the work of any of three of the Nobel Laureates, is we want to look within the range of the data. So it's not appropriate to take a regression coefficient and say, oh, if the capacity was out here, you know, I'll say it rather than gesture, and I apologize, was twice as high as what's in the data, then this would be the impact of price.

When we're looking at the pricing impact of capacity, we want to constrain ourselves to what we observe in the data, because that's where we have confidence about this quasi-experimental relationship.

And Dr. Hill didn't seem to understand this, because one of his criticisms was, boy, if you look way out in the tail of the data, you're going to see big price increases from having Spirit or JetBlue enter. But the whole point of what we do in regressions is we look within the support of the

data.

So I've limited myself to a minimum level of Spirit -- of relative capacity. And I think I have the -- I talked about the minimum level before. I can get it for you if you'd like, but I think it's, like, .05, or something like that. And we only want to look within that range when we're trying to understand the predictions of any model.

Q. When you look at the bottom end of that range, where Spirit is contributing very little capacity to a route, how is it possible that Spirit could have more than a 10 percent impact on the market-wide average price for that route?

A. So the first thing I will note is that the minimum that I look at is .0005. And this is on paragraph 298 of my report. And if you look at what .0005 is, this is half of a daily one-way flight, a quarter of a daily round trip Spirit flight for every thousand passengers in the market, the year before Spirit entry.

So how is it possible that Spirit has effects? Spirit is good at restraining market

prices. There's many ways in which Spirit is lowering overall market prices. They provide options to consumers. And other firms react to Spirit. They react to Spirit by -- Spirit has been a disruptive force in the industry. Having Spirit there is both unilateral and coordinated effects.

There's many channels through which Spirit is increasing competition and lowering prices in the markets it serves. What I'm doing in this regression is simply letting the data speak as to what is that effect, and how does it grow as Spirit's capacity grows, and what is it when Spirit has a relatively modest capacity on that route? And what I find overall is even modest capacities for Spirit on routes lowers prices overall.

Q. If Spirit has a very low share of capacity on a route, why wouldn't other airlines just let them fill up their plane and then ignore them?

A. Well, again, I pointed to several reasons. And just not exclusively, just thinking about this, there are coordinated effects. So Spirit, in some sense, jams the signals, and doesn't let other

airlines coordinate as effectively on routes when it's there.

And there are also unilateral effects. So Spirit has low prices, maybe other airlines think that if they just let -- if they just had high prices, and let Spirit fill up their plane, and I'll say plane in the singular, since it's a low frequency, with passengers, then Spirit would add more planes to that route.

So I think that there's just a bunch of different reasons why these -- Spirit is an effective competitor. And I've documented a bunch of these reasons in my report. But when I come to the net harm model, the point of it is to say, look, let's take very seriously the defendants' efficiency claims. And let's take seriously the fact that JetBlue might alleviate some of these -- some of this harm from removing Spirit from the market.

And let's let the data speak for themselves about how big is that Spirit effect. And what I find is that Spirit has a big effect, which is really consistent with my whole report. And that

can say is that if I've overstated harm in one market, I probably understated it by a similar amount in another market.

Q. So is your testimony that we should not be using your harm numbers at the individual route level, we should only be looking at the aggregate pattern of harm?

A. I wouldn't say that. But I would say that the aggregate pattern of harm is where you're most likely to see this type of pattern. And if we start looking at individual markets, then you might have some variation between a number that comes out of a regression and an analysis that's, by definition, based on statistics. That's just not the way that statistics or econometrics should be used. It shouldn't be used to look at individual observations and determine with certainty what occurs in individual observations. It should be looked at to get at likely effects and patterns that are going to occur.

Q. So let's take a look at an individual observation.

question. So without knowing more specifics about the markets you had in mind, I'm listing factors that I would want to look at more generally to understand whether a connecting flight had a significant impact on competition.

Q. Your opinion is that the choice of alternate destinations is not sufficiently significant to change your geographic market definition; is that right?

A. I'm sorry, I don't know what you're referring to. Is this something you're asking me about my report?

Q. Yes. Why don't you take a look at paragraph 66 of your report.

A. Sure. Initial report?

Q. Correct.

A. I'll go ahead, if you'd like to ask the question again.

Q. So you're opining in this paragraph that the ability to choose alternative destinations is not sufficient to change your geographic market definition, correct?

A. So that's basically right. But let me just say it as I stated it in my report, which is that the proportion of passengers who have the flexibility to change destinations is likely small. And the competitive significance of those alternative destinations is likely also small.

So that putting in alternative geographic destinations in the geographic market is not warranted, that it would not be an appropriate market definition exercise to include, say, a flight from New York to Spokane, if I'm thinking of New York to Dallas.

Q. What analysis did you do to determine that the proportion of passengers that had that flexibility is likely small?

A. I did a lot of analysis of this. I mean, let's start by the fact that I looked at the record and what the market definitions have been, accepted by the parties in previous litigation, including in the Northeast Alliance.

But also, including recent airline mergers such as the American Airlines-US Airways merger, and